

Bangalore 2000-0034

IN THE SPECIFICATION:

Please amend the paragraph beginning at line 8 of page 5 to read as follows:

--As mentioned above, the natural language generation system of the present invention comprises three separate modules, as illustrated in system diagram 10 of FIG. 3. As shown, NLG system 10 comprises a tree chooser module 12, an unraveler module 14 and a linear precedence chooser 16. The input to system 10 is a dependency tree, as similar to that as shown in FIG. 2, but without ~~(without a need for~~ the supertag definitions). Tree chooser module 12 then utilizes a stochastic tree module to choose syntactic realizations for words. Therefore, if a TAG grammar is used as the reference grammar, then TAG trees are chosen for the nodes in the input structure. This step in the process can be related to "supertagging" as performed in the prior art, except that in this case supertags (i.e., names of syntactic realizations, or in the case of a TAG reference grammar, names of trees) must be found for words in a tree rather than for words in a linear sequence. Tree chooser module 12 utilizes a tree model database 18 which may comprise a representation of XTAG derivations of, for example, 1,000,000 words of the Wall Street Journal. Tree chooser module 12 may utilize simplifying assumptions such as that the choice of a tree for a node depends only on its daughter nodes, thus allowing for a top-down dynamic programming algorithm. In particular, a node  $\eta$  in the input structure is assigned a supertag  $s$  so that the probability of finding the treelet composed of  $\eta$  with supertag  $s$  is compatible with  $\eta$ 's mother and her supertag  $s_m$ . For the purposes of the present invention, "compatible" means that the syntactic realization represented by  $s$  can be combined with the syntactic realization represented by  $s_m$ , according to the reference grammar. When using XTAG as the reference grammar, this results in the trees represented by  $s$  being able to be adjoined or substituted into the tree represented by  $s_m$ , according to the XTAG grammar. For the example illustrated in FIG. 2, the input to tree chooser module 12 is the tree ~~shown in FIG. 2B~~ without the supertags, and the output from module 12 is the tree as shown in FIG. 2A, including the illustrated supertags. It is to be noted that while a derivation tree in TAG fully specifies a derivation and thus a surface sentence, the output from tree chooser module 12 does not provide such a full specification, for at least two reasons. First, as explained above, trees corresponding to

Bangalore 2000-0034

adjuncts are under-specified with respect to the adjunction site and/or the adjunction direction (from the left or from the right) in the tree of the mother node or they may be unordered with respect to other adjuncts (such as, for example, the adjective ordering problem). Secondly, supertags may have been chosen incorrectly or not at all.--